

Claims

- [c1] A mechanical handle switch assembly integrated within a door of a vehicle and utilized for actuating a vehicle-based system, comprising:
- a door handle mechanism coupled to the door for actuation by a user, said door handle mechanism being movable for actuating the vehicle-based system and unlatching the door;
 - a drive train mechanism coupled to said door handle mechanism and being actuated by said door handle mechanism; and
 - a switch device operatively coupled to said drive train mechanism and being selectively closed by said drive train mechanism.
- [c2] The mechanical handle switch assembly recited in claim 1 wherein said door handle mechanism is movable within a predetermined travel distance, said door handle mechanism actuating said drive train mechanism and closing said switch device when said door handle mechanism is moved a substantially small portion of said predetermined travel distance.
- [c3] The mechanical handle switch assembly recited in claim

1 wherein said door handle mechanism is movable within a predetermined travel distance, said predetermined travel distance including a switch-triggering distance and an unlatching distance that is greater than and inclusive of said switch-triggering distance, said door handle mechanism being moved by said switch-triggering distance for actuating said switch device, said door handle mechanism being moved by said unlatching distance for unlatching the door.

[c4] The mechanical handle switch assembly recited in claim 1 wherein said door handle mechanism has a pull configuration for unlatching the door.

[c5] The mechanical handle switch assembly recited in claim 1 wherein said door handle mechanism has a lift configuration for unlatching the door.

[c6] The mechanical handle switch assembly recited in claim 1 wherein said drive train mechanism is a gear mechanism.

[c7] The mechanical handle switch assembly recited in claim 1 wherein said drive train mechanism is a cam mechanism.

[c8] The mechanical handle switch assembly recited in claim 1 wherein said drive train mechanism is a lever mecha-

nism.

[c9] The mechanical handle switch assembly recited in claim 1 wherein said switch device is biased to an open position.

[c10] A passive entry system for a vehicle comprising:
a controller;
a vehicle-based transceiver coupled to said controller;
a portable transponder carried by a user and utilized for communicating with said vehicle based transponder;
a switch device coupled to one of said controller and said vehicle-based transceiver, said switch device for actuating said vehicle-based transceiver to transmit a challenge signal to said portable transponder;
a drive train mechanism coupled to said switch device for closing said switch device;
a door handle mechanism coupled to the door for actuation by a user, said door handle mechanism being movable within a predetermined distance including a switch-triggering distance and an unlatching distance that is greater than and inclusive of said switch-triggering distance, said switch-triggering distance for triggering said switch device and actuating said controller for determining whether said user is authorized to enter the vehicle, said unlatching distance for providing access to the vehicle;

a locking mechanism coupled to and actuated by said controller, said locking mechanism for unlocking said door when said controller determines that said user is an authorized entity and before said door handle mechanism has moved by said unlatching distance.

[c11] The passive entry system recited in claim 10 wherein said switch-triggering distance is substantially less than said unlatching distance.

[c12] The passive entry system recited in claim 10 wherein said door handle mechanism has a pull configuration for unlatching the door.

[c13] The passive entry system recited in claim 10 wherein said door handle mechanism has a lift configuration for unlatching the door.

[c14] The passive entry system recited in claim 10 wherein said drive train mechanism is a gear mechanism.

[c15] The passive entry system recited in claim 10 wherein said drive train mechanism is a cam mechanism.

[c16] The passive entry system recited in claim 10 wherein said drive train mechanism is a lever mechanism.

[c17] The passive entry system recited in claim 10 wherein said switch device is biased to an open position.

[c18] A passively-actuated vehicle system comprising:
a controller;
a vehicle-based transceiver coupled to said controller;
a portable transponder carried by a user and utilized for communicating with said vehicle based transponder;
a switch device coupled to one of said controller and said vehicle-based transceiver, said switch device for actuating said vehicle-based transceiver to transmit a challenge signal to said portable transponder;
a drive train mechanism coupled to said switch device for closing said switch device;
a door handle mechanism coupled to the door for actuation by a user, said door handle mechanism for providing access to the vehicle; and
a locking mechanism coupled to said controller for actuation by said controller, said locking mechanism for unlocking said door after said controller determines that said user is an authorized entity.

[c19] The passively-actuated vehicle system recited in claim 1 wherein said door handle mechanism coupled to the door for actuation by a user, said door handle mechanism being movable within a predetermined distance including a switch-triggering distance and an unlatching distance that is greater than and inclusive of said switch-triggering distance, said switch-triggering distance for

triggering said switch device and said unlatching distance for providing access to the vehicle.

[c20] The passively-actuated vehicle system recited in claim 1 wherein said drive train mechanism is at least one of a gear mechanism, a cam mechanism, and a lever mechanism.